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1.0 Purpose & Scope

Purpose: The purpose of this procedure is to define specific roles, responsibilities, authorities, and accountabilities of the SHSD IH group and its interaction with other BNL organizations in the development, implementation and coordination of the emergency response to a BNL workplace spill/release of HazMat Chemicals or a Hazmat Transportation incident on the BNL site.

This SOP complements but does not over-ride any Emergency Services Division procedures, including EP-SOP-2.16 which defines the role of *Technical Specialist*.

This SOP cannot anticipate all hazards and exposure scenarios that may be encountered in an actual emergency. Thus this SOP does:

- Not establish any mandatory action that must be taken.
- Not limit actions that in the judgment of the IHG personnel are prudent and necessary.
- Not limit the professional judgment of the IH Group personnel responding to an event.
- Not authorize IHG personnel to place themselves or others at an unacceptable risk. This includes not doing a particular action (that in the view of the IHG personnel at the scene is not prudent and safe), even if that action is a pre-defined step in another BNL SHSD procedure.

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2.0 Responsibilities

The BNL Emergency Response program is implemented through a matrix of several BNL organization units. Some roles in that program are implemented through the SHSD Industrial Hygiene Group.

- 2.1 The IH Group Leader is responsible to assign IH Group members to fill roles and to ensure the qualification of the assigned workers.
 - 2.1.1 The IH Group Leader is responsible to create a schedule of "on-call responders". Two IH group members are "on call" at all times. The "on call status rotates on a monthly basis. An example of the *IH Group Emergency Response Coverage List* is listed in **Attachment 9.3.** It is updated on an annual basis.
 - 2.1.2 The IH Group Leader is responsible to provide telecommunication equipment for the "on-call responders" that facilitates their notification by the Emergency Response Organization. The work phone, pagers and home contact information for responders is listed in **Attachment 9.2.**
 - 2.1.3 The IH Group Leader designates professional Industrial Hygienists who have sufficient knowledge of chemical hazards, BNL operations, and OSHA & DOE drivers on HazMat Chemicals to fill the role of *Technical Specialist*. These members respond to the scene of a HazMat chemical event or to the Emergency Operation Facility and serve as a technical resource to the Incident Commander and Crisis Manager.
 - 2.1.4 The IH Group Leader designates persons in the SHSD IH Group possessing specialized knowledge and skills in chemical detection equipment. Those persons operate from the IH Lab in Building 120 for equipment and sampling supply preparation.
 - 2.1.5 The IH Group Leader designates persons in the SHSD IH Group possessing specialized knowledge and skills in the use of chemical detection equipment. Those persons respond to the IH Lab in Building 120 to pick-up equipment and go to locations designated by the TEC and IC for detection of airborne or surface levels of chemicals at the scene of an emergency.
- 2.2 The SHSD persons assigned a role in the BNL Emergency Plan are responsible to act within:
 - This SOP,
 - SOPs established by the IH Group for chemical monitoring and personal protective equipment, including IH105150, and
 - Their role in the BNL Emergency Plan as defined in EP-SOP-2.16.

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3.0 Definitions

Technical Specialist (TEC): A person possessing specialized knowledge and skills that may be useful at the scene of an emergency. As per this SOP, the role is filled by an Industrial Hygiene professional that responds to the Incident Commander in an emergency.

IH Lab Support: A person of the SHSD IH Group possessing specialized knowledge and skills in chemical detection equipment. That person will operate from the IH Lab in Building 120 for equipment preparation during an incident.

IH Field Support: A person of the SHSD IH Group or RCD Facility Support Group possessing specialized knowledge and skills in the use of chemical detection equipment. That person will respond to the IH Lab in Building 120 to pick-up equipment and go to locations designated by the TEC and IC for detection of airborne or surface levels of chemicals at the scene of an emergency.

Incident Commander (IC): The BNL fire or police officer who is in charge of the scene at an emergency.

Command Post (CP): The site at the scene, typically the Fire Rescue vehicle, where the IC is located.

Emergency Operations Center (EOC): The building from which support and coordination with off-site organizations is performed. This is Building *599 (BNL Fire House)* unless otherwise determined by the IC.

4.0 Prerequisites

Qualifications and training as described in Section 7.

5.0 Precautions

5.1 Do not respond to an event without understanding and completely complying with all requirements stated in *IH105150* Personal Protective Equipment for Chemical HazMat Incidents.

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5.2 Do not activate Building 120 Lab if the area is involved in the event and thus has potential for exposure to responding personnel.

6.0 Procedure

The IH Group performs the following functions in preparation for emergencies and during chemical incidents to support the BNL Emergency Plan:

Primary Role(s)

- Prepares SHSD Level Standard Operating Procedures for chemical Hazard Assessment and Exposure Monitoring.
- Calibrates and maintains certain chemical hazard Exposure Monitoring Equipment.
- Reviews or assists in developing training material on chemical HazMat response.
- Respond to Emergency Response incidences and serve as Technical Specialist to the IC.
- Support to TEC as Lab Support or Field Support.
- 6.1 **Preparation of Procedures for Hazard Assessment and Exposure Monitoring:**The IH Group develops and revises Standard Operating Procedures and record-keeping forms for HazMat Chemical assessments and exposure monitoring. The IH Group has prepared procedures describing general exposure assessment principles, surface wipe sampling, specific instrument operating instructions, and calibration protocols and techniques.
- 6.2 Calibration and Maintenance of Exposure Monitoring Equipment: The IH Group develops and revises Standard Operating Procedures for meters, sampling trains and Chain-of-Custody.

Note: The IHG endeavors to maintain the equipment in a state of readiness for use by qualified TEC or IH Field Support to perform exposure assessments in an emergency. However, all equipment is not available at all times due to the dual purpose of the equipment, i.e. for routine IH sampling. Equipment may also not be available due to the need for repair and off-site calibration. Calibration of Portable test equipment used in this program will be done on a basis established in IH51660.

6.3 **Training Development:** The IH Group develops or reviews training material covering response actions to HazMat Chemical events.

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6.4 Technical Specialist.:

- 6.4.1 Respond to the Command Post (CP) and report immediately to the Incident Commander (IC).
- 6.4.2 At the CP, verify that it is properly placed in relations to meteorological conditions and the potential hazard. Advise the Incident Commander if relocation of the CP is advised.
- 6.4.3 Summon additional IH and SHSD support, if needed. See Attachment 9.2 for contact information.
- 6.4.4 Coordinate with other IH Group personnel arriving at the scene, and determine the appropriate role for each person to maximize the overall effective of the IH Group's response.
- 6.4.5 Obtain information on /the real-time status of event. Determine the scope of the event and the potential exposure.
- 6.4.6 Verify that the scene is contained with a defined perimeter with limited access to prevent the spread of contaminants or exposure of personnel.
- 6.4.7 Determine the nature and severity of the hazard- type of agent- i.e. solid/liquid/gas, chemical or biological. If possible, interview "victims" on the scene and first responders who have access to information of the nature of the event. <u>Use Attachment 9.1</u> or an equivalent, to record the event. Questions to ask include:
 - What was the chemical that was released?
 - How was it opened/spilled/released?
 - What type of exposure occurred to people?
 - Look for Signs/symptoms of illness-
 - What is the current status of the material- opened, covered
 - What is the potential for entrainment into the ventilation system:
- 6.4.8 Verify that a decontamination facility has been set up and activated, if appropriate.
- 6.4.9 Determine if exposed persons require decontamination or if persons have already been decontaminated.
- 6.4.10 If the EOC is activated- one TEC is to remain at the scene unless otherwise directed by the IC. The EOC is to be manned by the second SHSD TEC or qualified RCD Facility Support responder. If only one TEC that has responded, the IC will determine where the available personnel provide the most useful service (incident scene or the EOC).

6.5 IH Lab Support:

6.5.1 Respond to the IH Lab in Building 120 for equipment preparation.

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- 6.5.2 Remain in communication with the TEC via the phone communications listed in Attachment 9.2
- 6.5.3 Follow the instruction and fill the requests of the TEC in preparing
 - Field sampling equipment
 - Personnel Protective Equipment or
 - Technical references and resource material.
- 6.5.4 The IH Lab Support may leave Building 120 at the direction of the TEC to obtain equipment and make deliveries.

6.6 IH Field Support:

- 6.6.1 Respond to the IH Lab in Building 120.
- 6.6.2 Obtain PPE for protection from the hazards in the incident.
- 6.6.3 Pick-up field sampling equipment
- 6.6.4 Go to locations designated by the TEC and IC for detection of airborne or surface levels of chemicals at the scene of an emergency.
- 6.7 **Entry into the "hot zone":** The IHG personnel (TEC or IH Field Support) may enter the hot zone to assess the situation, gain further information that requires the IH tools to obtain, take samples, etc. Do not go beyond the Command Post without the permission of the IC and the Personal Protective Equipment (PPE) required in IH105150 and qualification to wear the PPE.
 - 6.7.1 Collect environmental samples or use direct reading equipment as per the IH75000 series.
 - 6.7.2 Process collected media via IH51000 series.
- 6.8 **Exiting the "hot zone":** Follow all the decontamination procedures established by the Incident Commander and TEC.

7.0 Implementation and Training

Qualifications The IHG qualifies IHG personal who perform emergency response work by preparing and ensuring knowledge of documented procedures. Only IHG persons knowledgeable in these documents are authorized to respond to a BNL incident.

- 7.1 **Technical Specialist** responders need to have:
 - 7.1.1 HazWoper Section (q.) qualification.
 - 7.1.2 All training requirements of the BNL Emergency Response Plan, including TQ-EP-015.

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- 7.1.3 PPE qualification (if they are to enter the hot zone or go into adjacent areas to the incident for plume characterization or dispersion measurements.)
- 7.2 **IH Lab Support** responders need to have:
 - 7.2.1 Knowledge of the IH instrumentation and supplies.
- 7.3 **IH Field Support** responders need to have:
 - 7.3.1 HazWoper Section (q.) qualification.
 - 7.3.2 All training requirements of the BNL Emergency Response Plan.
 - 7.3.3 PPE qualification appropriate for entry into the hot zone or area adjacent to the incident for plume characterization or dispersion measurements.

8.0 References

- 8.1 BNL SHSD Procedures: IH105150.
- 8.2 29CFR1910.120 OSHA Hazardous Waste Operations and Emergency Response Standard
- 8.3 DOE Order 440.1A

9.0 Attachments

- 9.1 BNL SHSD Chemical HazMat Incidence Report
- 9.2 Sample of the IH Group Emergency Responder Contact Information
- 9.3 Sample of the IH Group Emergency Response Pager Coverage List
- 9.4 Sample of the IH Roles Qualification form

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10.0 <u>Documentation</u>

Document Review Tracking Sheet				
(signature/date on file) (signature/date on file) R. Selvey 02/26/04 J. Peters 02/27/04		Approved By / Date: (signature/date on file) R. Selvey 02/27/04 IH Group Leader		
Filing Code:	QA Review / Date:	Effective Date: 03/01/04		

Periodic Review Record			
Date of Review	Reviewer Signature and Date	Comments Attached	
03/01/04	R. Selvey 03/01/04	Revised Section 7 to include specific reference to TQ- EP- 015. Added attachment 9.4 Qualification Record	



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IH105100 Attachment 9.1 page 1 of 2 Chemical HazMat Incident Emergency Response Report

Date:		Building:		Area/Room:
Time of Notification:	am pm	Time Arrive at Command Post: am	pm	Time Left Scene: am pm
IHG Responder(s):		At scene:		At EOC:
, , ,				
Description of Chemical				
Description of	Soli	dLiquidGas		Type of package:
Chemical Agent	Color:	Odor:		
	Identity:			Concentration/Amount:
	Mode	of dispersion		Current status of the material:openedcovereddissipated
Description of site				
Description of Site	Indo	orsOutdoors		
Ventilation	Cent	ral HVACWall A/C		RunningOffSealed
Access to site	Barri	caded		Occupied:
	Caut	ion Tape		Evacuated:
	Polic	e Control		
Meteorological Conditions:	Rain		rcast	Wind Speed:
	Temp:	F C RH%	_	Wind Direction:
Adequacy of Controls and Containment				
Extent of	Building			People
Known/suspected Contamination				



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IH105100 Attachment 9.1 page 2 of 2 Chemical HazMat Incident Emergency Response Report

Interviews		
Victims/ Occupants	What does the container look like? How was it opened? W exposed?	hat happened to you or others when
First Responders	What type of exposure occurred to people? What type of co	ondition are they now in?
Signs/Symptoms in People	CoughingBurning EyesVomitingSkin irritationSkin BurnsLight Head Other:	adedDizziness
Exposure to People	Airborne	Skin Contamination
Site Response Action	ns- Decontamination	
Decontamination Facility Set-up	Time Activated:	
Decontamination Method		
Persons Decontaminated		
IHG Role & Respons	se Actions	
Hazard Evaluation	Tour of Area Site Entry by IH:yesno Time	e:
PPE	Respiratory Protection SCBAAir LinePAPR-FF Full APRHalf APR Cartridge:	Protective Clothing SUITS Level: A B C D GLOVES: FOOT: FACE:
Exposure Monitoring	Direct Reading Airborne Samples Environmental Surface Wipe Samples Personal Skin Wipes	Site Entry:yesno Time:
Monitoring Results		
Recommendation to Others	PPE FOR OTHER RESPONDERS: CONTAINMENT:	
	CLEAN-UP:	
	DECONTAMINATION:	
	EVACUATION OF PUBLIC:	



Safety & Health Services Division INDUSTRIAL HYGIENE GROUP

Chemical HazMat Incident Emergency Response Contact List

Date: 03/01/04

Sample
To be maintained current and revised as needed

Command Post Mobile Phone (Car 1):

Technical Specialists

Name	Work Phone	Work Pager/ Cell Phone	Home Phone	Private Cell Phone	
NICOLE BERNHOLC	2027	453-5864	631-689-7118		
KENNETH ERICKSON	4935	453-1605	631-929-4990	631-453-1605	
FRED HORN	3451	453-5963	631-288-0889		
JOHN PETERS	7475	484-9394	631-728-3493		
DAVE ROBBINS	5789	453-0608	631-423-6045		
BOB SELVEY	3066	484-9391	631- 698-2976	484-9391 312-7405	
CHRIS WEILANDICS	2593	453-6231	631-696-5013		

IH Lab Support

Name	Work Phone	Work Pager/ Cell Phone	Home Phone	Private Cell Phone
RALPH WILSON	3900	453-4176	631-698-5813	516-848-4370
EDWARD LACINA	3575	516-578-3706	631-422-6569 (Father) 631-893-5228 (Fiancée)	516-578-3706
FIROZA ZANONI	4532 5076	453-2492	631-642-9704	516-523-3568
ROBERT PETRICEK	2028	6059	631-744-4879	

IH Field Support

Name	Work Phone	Work Pager/ Cell Phone	Home Phone	Private Cell Phone
EDWARD LACINA	3575	516-578-3706	631-422-6569 (Father) 631-893-5228 (Fiancée)	516-578-3706
FIROZA ZANONI	4532 5076	453-2492	631-642-9704	516-523-3568
RALPH WILSON	3900	453-4176	631-698-5813	516-848-4370



Chemical HazMat Incident Emergency Response Pager Coverage

IH Group Emergency Response Pager Coverage

	Month	Year	Coverage By (wears beeper off-hours and weekend, persons on call on Saturday also covered to the control of the	
			Primary Responders (on-call)	Alternates/Field Team
1.	Jan	2004	Bernholc/ Peters	Lacina/Zanoni
2.	Feb	2004	Salvay / Pobbins	Frickson
3.	Mar	2004	Ω -	1
4.	Apr	2004	Sample	
5.	May	2004	-	
6.	Jun	2004	To be mair	ntained
7.	Jul	2004	To be maintained	
8.	Aug	2004		1
9.	Sept	2004	current each year	
10.	Oct	2004	Definion reters	Lacina/Zanom
11.	Nov	2004	Selvey / Robbins	Erickson
12.	Dec	2004	Horn/Weilandics	Wilson



HP-IHP-105100

Safety and Health Services Division - Industrial Hygiene Group

Emergency Responder IH Roles Qualification Record

Qualification Criteria: Only persons of the Industrial Hygiene Group who have demonstrated competency in SHSD IHG SOP IH105100 to the satisfaction of the IH Group Leader, or designee, are authorized and allowed to respond to the CP, EOC., or IH Lab. Personnel shall be re-qualified at a frequency not to exceed three years. The qualification criteria to perform this procedure for SHSD includes demonstrated competency to the satisfaction of the IH Group Leader in the following areas:

- Knowledge of industrial hygiene practice (awareness level).
- Specific knowledge of this procedure.
- Demonstrated competency in performing this type of response.

Candidate Name	I agree to:	Qualification Number:
Signature	Keep all of the qualifications listed below up to date (Use JTA to track compliance) Follow all precautions and steps in the IH105100 and 105150 procedures.	HP-IHP- 105100
Technical Specialist IH Lab Support IH Filed Support	Qualified By: Robert Selvey	Date of Qualification (Expires 3 years from this date)

Technical Specialist:			
Criteria	Qualifying Standard		
Emergency Response Procedures	HazWoper Section (q.) qualification via OSHA 40-hr.		
	Web Class TQ-EP-015 Incident Command		
	ESD form for EP-SOP-9.1 <i>Recovery and Reentry</i> Read and sign)		
	EP-SOP-2.16 Technical Specialist. (Read and sign)		
	IH105100 IH Roles in Chemical HazMat Incidences		
	IH105150 PPE for Emergency Response		
Respiratory Protection	OMC Medical Approval for SCBA & APR		
	SCBA Class or Web Course		
	SCBA Practical		
	SCBA (Cairns) Face Piece Fit Test		
	APR/PAPR Class or Web Course		
	APR Full Face (North 7600) Face Piece Fit Test		
Personal Protective Equipment	Web Course Chemical Protective Clothing User (HP-OSH-157)		
Heat Stress Prevention	Web Course Heat Stress Prevention (TQ-Heatstress)		
BNL Emergency Plan	Local Emergency Coordinator (GE-LEC)		
	Emergency Planning and Response (GE-ENV-GET)		
Chemical Safety	Hazard Communication Training (HP-IND-200)		





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IH Lab Support		
Criteria	Qualifying Standard	
BNL Emergency Plan	IH105100 IH Roles in Chemical HazMat Incidences	
	IH105150 PPE for Emergency Response	
	Emergency Planning and Response (GE-ENV-GET)	
Chemical Safety	Hazard Communication Training (HP-IND-200)	

IH Field Support				
Criteria	Qualifying Standard			
Emergency Response Procedures	IH105100 IH Roles in Chemical HazMat Incidences			
	IH105150 PPE for Emergency Response			
	HazWoper Section (q.) qualification via OSHA 40-hr.			
Respiratory Protection	OMC Medical Approval for SCBA & APR			
	SCBA Class or Web Course			
	SCBA Practical			
	SCBA (Cairns) Face Piece Fit Test			
	APR/PAPR Class or Web Course			
	APR Full Face (North 7600) Face Piece Fit Test			
Personal Protective Equipment	Web Course Chemical Protective Clothing User (HP-OSH-157)			
Heat Stress Prevention	Web Course Heat Stress Prevention (TQ-Heatstress)			
BNL Emergency Plan	Local Emergency Coordinator (GE-LEC)			
	Emergency Planning and Response (GE-ENV-GET)			
Chemical Safety	Hazard Communication Training (HP-IND-200)			